



Department of Business, Energy & Industrial Strategy

Call for Evidence:

Towards a Market for Low Emissions Industrial Products

Submission from CIBSE

28th February 2022

Name:	Dr Hywel Davies
Position:	Technical Director
Name of organisation:	Chartered Institution of Building Services Engineers
Address:	222 Balham High Road, London, SW12 9BS
Email address:	hdavies@cibse.org

THE RESPONDENT

1. ***What type of organisation do you represent? Please select one:**

- a) **Private sector business / for profit organisation: large**
- b) **Private sector business / for profit organisation: SME**
- c) **Trade association or other industry body**
- d) **Academic institution**
- e) **Non-Government Organisation (NGO)**
- f) **Private individual**

g) Other - The Chartered Institution of Building Services Engineers (CIBSE)

The Chartered Institution of Building Services Engineers, CIBSE, is the professional engineering institution that exists to 'support the Science, Art and Practice of building services engineering, by providing our members and the public with first class information'. CIBSE has a Royal Charter and is a charity. As a professional body it is not a trade or industry body but exists to deliver public benefit in the field of building services engineering.

2. ***Do you represent or hold expertise on a specific industrial sector? If yes, which sector?**

CIBSE members design, install, operate, maintain and refurbish life safety and energy using systems installed in buildings. CIBSE members include specialists in fire safety systems and fire engineering. The Society of Façade Engineering, a Division of CIBSE, specialise in the design and installation of cladding systems.

CIBSE is unusual amongst built environment professional bodies because it embraces design professionals and also installers and manufacturers and those who operate and maintain engineering systems in buildings, with an interest throughout the life cycle of buildings.

CIBSE is the professional body for those professional engineers who are responsible for all of the energy using products that are used to heat, cool, light, provide power, enable lifts and escalators and emergency alarms and systems and the overall control of buildings. These systems have impacts through both their embodied carbon, which relates to the emissions associated with their manufacture, and also their operation carbon impact, the energy associated with their use.

CIBSE is the sixth largest professional engineering Institution, and along with the Institution of Structural Engineers is the largest dedicated to engineering in the built environment. With its main office in London, CIBSE has over 20,000 members, with around 75% operating in the UK and many of the remainder in the Gulf, Hong Kong and Australasia. Our members have international experience and knowledge of life safety requirements in many other jurisdictions.

CIBSE publishes Guidance and Codes providing best practice advice and internationally recognised as authoritative. The CIBSE Knowledge Portal makes our Guidance available online to all CIBSE members and is the leading systematic engineering resource for the building services sector. It is used regularly by our members to access the latest guidance material for the profession. Currently we have users in over 170 countries, demonstrating the world leading position of UK engineering expertise in this field.

3. *Do you / your organisation manufacture or purchase industrial products as defined on page 9 of this document? Please select one:

- a) Manufacturer of industrial products**
- b) Buyer of industrial products**
- c) Both buyer and manufacturer**
- d) Neither buyer nor manufacturer**

As a professional body CIBSE is neither a buyer nor a manufacturer. However, we provide guidance on many of the products and systems that heat, cool, illuminate, ventilate and provide for vertical movement within buildings, as well as facades and public health systems (plumbing, hot water supplies and sanitary disposal).

CIBSE Maintenance Guide M includes an extensive table of economic lives of building services components, which gives guidance on how long these systems can reasonably be expected to last. This is key data in determining the overall whole life emissions of these products and installed systems.

CIBSE also publishes peer reviewed industry guidance on the calculation of embodied carbon for building services systems. These are supplied along with this response for the information of the Department. They demonstrate what is already available to the built environment sector (in addition to standards, which are addressed in response to Q6 below).

4. If you are a manufacturer of industrial products, do you predominantly sell your products UK buyers or export to other countries? Please select one:

- a) Predominantly sell to UK market**
- b) Predominantly export to other countries**
- c) UK and international markets of similar or equal importance**

CIBSE observes that many of the systems that we deal with are not manufactured exclusively for the UK market. Many are not manufactured in the UK and the UK buys products that are made for a wider range of markets. The relevant trade bodies will be able to give further information on market sizes of key product groups.

5. If you are a buyer of industrial products, do you predominantly buy products from UK or international manufacturers? Please select one:

- a) Predominantly buy from UK manufacturers**
- b) Predominantly buy from international manufacturers**
- c) UK and international manufacturers or similar or equal importance**

6. *Do you agree with the approach to the emissions scope set out in Chapter 1?

It is a cause of real concern to CIBSE that this consultation makes almost no reference to the potential role of standards, whether British, European or International, in the development of this policy. There are three reasons for this concern.

Firstly, BSI Standards is the National Standards Body recognised by the UK government, with a formal Memorandum of Understanding between HMG and BSI. The full MoU can be accessed here: <https://www.bsigroup.com/globalassets/documents/about-bsi/bsi-uk-nsb-memorandum-of-understanding-uk-en.pdf>

Under the MoU HMG is committed to support the work of BSI and to promote the use of standards to support public policy development in the UK. The almost complete lack of reference to relevant standards in this consultation document is a serious omission.

The second cause for concern builds on the principle of the MoU. There are already a number of British, European and International standards that play an essential role in the climate agenda, helping to monitor climate change, quantify greenhouse gas emissions and promote good practice in environmental management.

One notable example is the [ISO 14000 family of standards](#) for environmental management systems, which details practical tools for organizations to manage the impact of their activities on the environment. This suite of standards, which includes one of ISO's most widely used standards – [ISO 14001](#), *Environmental management systems – Requirements with guidance for use*, covers overall frameworks, audits, communications, labelling, life-cycle analysis and methods to mitigate and adapt to climate change.

BS EN ISO 14001 has been in existence for nearly 20 years, and builds significantly on the original BS 7750, which was developed by BSI in the 1990s with the specific objective of being put forward as the basis of international standardisation. The BS EN ISO 14000 series is now THE recognised global standard, with many British organisations certified to it and with an established infrastructure in place to support certification.

Fully aligned with the Greenhouse Gas (GHG) Protocol and compatible with most GHG programmes, the BS EN [ISO 14064](#) series gives specifications for the quantification, monitoring and validation/verification of greenhouse gas emissions, while [ISO 14067](#) specifies the principles, requirements and guidelines for quantifying and reporting the carbon footprint of products. Other standards in this area include [ISO 14080](#), which gives organizations a framework to develop consistent, comparable and improved methodologies in the fight against climate change, and [ISO Guide 84](#), *Guidelines for addressing climate change in standards*, which is aimed at those involved in standards development.

The third cause of concern is that under the Technical Barriers to Trade Agreement with the EU and under WTO rules the UK is **already committed** by treaty to prioritise the use of international standards.

In the light of all these relevant standards and the two decades of significant investment by British business in their development, it is a cause of very serious concern that this consultation scarcely recognises this huge body of existing

standards development work. These tools are already in place to support public policy and to enable public procurement to respond rapidly to the need for the public sector to start to set a lead in procuring low emissions products. We do not need to reinvent these wheels, we need to use what we already have.

6.1 Does your business have estimates (either at the business level or the product level) of the split of emissions falling into Scope 1, Scope 2 and Scope 3? If so, please provide them.

In the built environment the embodied carbon in a product, covering Scope 1 – 3 emissions, are only a part of the story. In a just completed building the embodied carbon of the building services systems will typically account for some 20-25% of the overall embodied carbon. But those systems will be replaced a number of times (See the Guide M economic lives tables) during the life of the building, and by the end of its life might have accounted for as much as 40-50% of the overall embodied carbon. But then the lifecycle carbon emissions resulting from the use of that product to heat, or cool, or ventilate, or light, or provide power or operate lifts and escalators will account for significantly more carbon emissions due to the operational energy use. So for the built environment we need to address whole life carbon.

If not, there is a real risk of gaming, whereby lower embodied carbon products which have higher operational carbon emissions are used, which is a perverse and undesirable outcome.

6.2 What do you see as the optimal scope of emissions to be included in the definition of low emissions products in order for labelling and standards policy to be both effective and workable? Could the exclusion of some Scope 3 emissions create any negative impacts?

As noted above, the emphasis needs to be on whole life carbon emissions.

6.3 *Which, if any, Scope 3 emissions categories are essential for inclusion in the assessment for your sector/product(s)? Please specify why you think they should be included.

As noted above, the emphasis needs to be on whole life carbon emissions.

6.4 How should the emissions of 'value retained' products (see glossary) be evaluated to allow for comparison with new products?

For the lighting sector CIBSE has developed guidance on the circular economy, working with the lighting sector and manufacturers. This guidance and associated tools is provided in the accompanying evidence pack.

6.5 *Are there any limitations of an emissions-only approach to assessing climate impact that may affect your sector/product(s)? Please specify any additional metrics that you think should be included.

It is important that the principle of whole life emissions is adopted as far as possible.

7. *How do you think the level of emissions at which the definition of low emissions products is set should change over time?

In the first instance data on current emissions are needed for much of the built environment. The early emphasis must be on getting industry to measure its embodied carbon and for that information to be collected to enable robust evidence based targets to be derived.

7.1 *Do you agree it should become more stringent over time?

Yes, but it needs to be realistic, evidence based and start at reasonable levels of ambition.

7.2 *Do you have any suggestions for how the level of emissions should be set?

In the first instance by getting the data to assess current performance and determine reasonable and realistic targets.

7.3 *Do you have any suggestions for how a trajectory of increasing stringency should be shaped for your sector and how regularly any definition would need to be revisited?

Getting manufacturers collecting the data and calculating the emissions is the first step. There needs to be some ambition in setting the targets. There is a private members bill which seeks to make the calculation of embodied carbon content of a building a requirement of Building Regulations. CIBSE strongly supports this – there is no immediate target or requirement other than to do the assessment.

7.4 How far in advance would you like government to give notice of this trajectory?

We need to get on with it. If the first phase is data collection then in the early days everyone can focus on doing that and that should enable those manufacturers seeking to engage responsibly to start to identify how they can start to reduce emissions.

7.5 Do you have a suggestion of what an ambitious but achievable level of emissions would look like for your sector/product(s) through the 2020s? This can be expressed as a benchmark of embodied emissions or as conditions (for example, that the benchmark needs to be reasonable, given that deep decarbonisation technologies will not be readily available yet).

We simply do not have the data at this point for many products used in the built environment.

8. Do you agree with the approach of setting more stringent emissions levels as the basis for voluntary standards, vs lower-stringency mandatory standards?

PLEASE SEE Answers under Q6 about the use of the body of existing standards, including the BS EN 15804 standards.

8.1 What methodology could be used to determine the stringency of these more ambitious definitions?

SEE ABOVE

8.2 How could a range of low emissions levels for voluntary standards be used most effectively to drive industrial decarbonisation?

In the built environment this will require regulation. It will not happen on a voluntary basis. The law abiding will be penalised by trying to meet voluntary standards whilst much of the industry will ignore them and improve their profit margins.

9. Do you agree that sector-level definitions are likely to be the most appropriate level of granularity for demand-side policies?

9.1 Is there a method of simplifying the emissions scope in order to set one definition that covers a broad range, or all, of the products within your sector? (Such as the Responsible Steel cradle-crude steel approach)

In the construction sector there are initiatives for timber, steel and concrete at least. These are very competitive and it would be unwise to pick on one as an exemplar as there is a high level of concern that some sectors are trying to manipulate the system to suit their material.

9.2 Do you have a view on using market-wide assessment methodologies to allow buyers to compare products across sectors?

This is of no relevance in the built environment – and it's a big enough market to manage.

10. What are your views of the existing efforts to define low emissions for industrial products, either in your sector/for the products you manufacture, or for wider industry? In submitting your evidence, please include the following:

10.1 Provide details of the definition/scheme (e.g. sector/product(s) it applies to, emissions scope, benchmark) and, where possible, links to further information and/or contact details.

10.2 Are you a member of the scheme or would you consider signing up to it? Why/why not?

10.3 In your opinion, should government consider adopting or endorsing this definition/scheme? Why/why not?

CIBSE is working with industry to develop the use of embodied carbon calculations. If it looks as though a different regulatory scheme will be introduced then this work will stall and industry will wait to see what the scheme is going to require. This should be avoided and government should seek to work with the sector and its professional bodies.

CHAPTER 2

11. * How are products bought and sold in your sector and what is the demand for low emissions products? Please share further evidence on the following:

The construction industry is a very price competitive sector where most procurement is price driven and minimum regulatory standards are the norm. Going beyond those is difficult and there is no regulatory framework for embodied carbon considerations to be made. BEIS needs to talk to the Building Regulations team at DLUHC about how the Building Regulations could provide a regulatory driver for just measuring and calculating embodied carbon during building design.

11.1 *When selling intermediate industrial products, which sectors does your sector predominantly sell to? What is the split between government and private sector demand?

There are considerable volumes of bulk materials sold within the sector. The comment above applies equally to these transactions.

11.2 *When buying intermediate products, which sectors does your sector predominantly buy from?

The major intermediate products in construction are concrete, steel, masonry, sheet materials including glass and supplies of wiring, pipework, ductwork and products which are then assembled into working systems.

11.3 *Is there demand for lower emissions industrial products in your sector? Which type of customers does this come from?

See response to 11. Only a handful of environmentally aware businesses currently ask for lower emission products unless they are required by regulation.

11.4 Is existing demand for low emissions products sufficient for businesses to invest in decarbonisation in your sector?

Probably not.

12. Have some businesses in your sector already undertaken some level of decarbonisation that new demand-side policy could help consumers distinguish between products with different climate impacts?

Whilst there are some that have, many have not.

13. Do you think that a voluntary product standard and/or product label would be sufficient to change buyers' behaviour? Why/why not?

No. Construction does not largely do voluntary standards – they turn into a tax or levy on the leading edge of the sector whilst the very long tail takes advantage of the chance to undercut or just ignores it because there is no regulation to tell them to do it.

14. How do the green credentials of a product feature in buyers' behaviour and purchasing decisions? Please consider:

It is best that these buyers give answers, but as a professional body we are aware that green credentials do not often feature in these considerations – and if that is to change then government must drive it with the full back of HM Treasury. In the construction sector there is also the impact of the Code for Construction Product Information to consider, requiring improved standards of product information and sales behaviour in the sector.

For buyers of industrial products**14.1 Which factors are most important when making purchasing decisions?****14.2 Would you find an embodied emissions (e.g. carbon footprint, traffic-light) product label helpful? Would budget-holders factor it into procurement decisions (and how significant would it be)?****14.3 Have your budget-holders and/or procurement teams received training to help assess the climate impact of purchasing decisions? Do you feel equipped to assess the climate impacts of products?****For manufacturers and sellers of industrial products**

14.4 Would you find an embodied emissions (e.g. carbon footprint, traffic-light) product label helpful in differentiating your product from others in the market?

14.5 Has your sales team received training to help market the climate impact of your products?

For all respondents

14.6 Do you have other views on how the green credentials of a product could be given greater priority by buyers?

14.7 Bearing in mind your response to Q6.3 (Chapter 1), what other information or labelling would be helpful for differentiating and driving the market for products with a lower environmental footprint? This could include, or be instead of, embodied emissions.

15. What impact could demand-side policy, such as low emissions product standards or procurement, have on your sector's supply chain, both upstream and downstream? Consider the following possibilities and include others if relevant:

15.1 Could the introduction of demand-side policies adversely affect the market for specific raw or recycled materials?

15.2 Could new policy drive cost increases for manufacturers further along the supply chain?

Absolutely, but that is no reason not to consider doing it. Climate change is driving cost increases too!

15.3 Could new policy create carbon leakage risk elsewhere in the supply chain, for example through introducing new costs to a part of a sector that are not already protected through existing carbon leakage policies?

15.4 How might any impacts vary based on the stringency of the low emissions definition? How might any impacts vary between domestic and non-domestic supply chains?

If the definition is not clear and reasonably challenging then there will be plenty who will race for a loophole. The sector needs a clear and robust framework to operate in based on recognised standards.

16. Do you agree that the factors discussed above are key to assessing which sectors should be targeted by demand-side policy?

16.1 Are there other sectoral characteristics you think need to be considered?

16.2 Would you say that some characteristics are more important than others?

17. *Would your sector be a suitable target for new demand-side policy over the next 5-10 years? When submitting evidence please consider:

- How this might vary dependant on policy lever.
- Where in your supply chain new demand-side policy would have the greatest benefit (for example, an upstream product/process that accounts for most of the embodied emissions in end-consumer products, or at the point of transaction).

- Which product markets for your sector will require the greatest policy influence to shift procurement to low emissions industrial products.
18. Could a 'mandatory for UK products only' approach be a reasonable first step in rolling out new mandatory standards or labelling policy?
19. Under what circumstances, or for which products, is it essential to target both UK production and imports from the start?

CHAPTER 3

In the construction sector we have standards and industry guidance – what is needed is to drive its adoption and implementation, not change it. Again, please see the answer to Q6.

20. *What are your views on how emissions reporting could be simplified? Please consider:

- The extent to which aggregated data (e.g. sector, sub-sector, company averages, product groups) would be accurate enough for demand-side policy to operate, in particular for scope 3 emissions
- If adopted, how such 'simplifications' could be accounted for. For example, firms using more accurate data could be rewarded by being permitted to resubmit data on a less frequent basis
- How we strike the balance between the accuracy of reporting and the effort required from businesses to comply

21. Does your sector already compile aggregated products emissions data? 21.1 If so, who is responsible for compiling and sharing this data?

22. To maintain accuracy and trust in the system, how frequently should embodied emissions data be reported? Please consider:

- Existing emissions reporting cycles that your business is subject to, both government and non-government led
- The potential rate of decarbonisation within your sector (i.e., will there be many small emissions reductions over time, or one major reduction in emissions?)

23. For your sector, please submit evidence on the potential financial and administrative cost of mandatory embodied emissions reporting and verification for products sold in the UK. 23.1 Do you already collect the data required to measure emissions at product level?

23.2 If not, what would the potential administrative and financial impact be to do so?

23.3 What are your views on the practicality of measuring the embodied emissions of upstream and downstream inputs and processes in your business' supply chain, including those that occur overseas?

24. *What are your views on how the embodied emissions of imported industrial products should be reported?

25. What are your views on appointing a certification body? 25.1 Which organisations are active in your sector?

25.2 Do you think there would be value in government alignment with these for new demand-side policy?

26. What are your views on existing government reporting schemes? 26.1 Do you agree that existing reporting schemes do not provide the information necessary to calculate the emissions associated with industrial products produced and traded in the UK?

26.2 What are the specific data gaps in existing schemes when it comes to assessing emissions associated with products?

26.3 Do you have any additional views on how existing data could be used to calculate the embodied emissions of industrial products?

26.4 Do you have any additional opinions on existing government emissions reporting schemes that we should consider as we develop a new approach?

27. In relation to existing non-government reporting schemes, please provide evidence where applicable on:

- Schemes operating in your sector or supply chain to monitor and verify the embodied emissions of intermediate and/or end-consumer industrial products, and whether you participate
- The reporting framework and emissions scope covered by these schemes. Please be as specific as possible, including any internationally recognised frameworks, for example: 'BS EN 15804 EPD verification scheme, GreenBookLive, ISO 14025'
- The proportion of your business's output (UK only) that is reported under such a scheme (please specify products and destination markets where possible)
- Why your business voluntarily reports product level embodied emissions. Or alternatively, why your business does not currently participate in voluntary emissions reporting schemes.

28. Do you believe there would be value in aligning any new demand-side policy data reporting framework with an existing voluntary emissions reporting scheme? If so, which? Please provide justification and how you assessed the benefits and limitations of the scheme.

CHAPTER 4

29. How should voluntary demand-side policies be designed and communicated to maximise uptake amongst manufacturers? Please consider:

- Methods to incentivise uptake and build trust amongst manufacturers.
- How we can make the design of any scheme desirable to participate in and user-friendly. Design aspects that have worked well or lessons from other schemes are welcomed.

-
- **The support required for businesses to adopt voluntary demand-side policies and whether there are key groups who may need particular support to onboard new practices.**
 - **Any barriers that might reduce uptake and how these could be overcome.**
 - **Your preferred methods of engagement on the design and rollout of demand-side policies, e.g. consultations, informal or formal meetings, workshops, etc.**

Voluntary policies will not work in construction. Unless Regulations demand measurement of embodied carbon, or public sector procurement requires it, then it will not happen. It really is as simple as that. Industry won't do it voluntarily – look at operational energy disclosure, which comes under your department, as a case in point. In a cut-throat sector where margins are wafer thin businesses cannot voluntarily take on extra costs.

30. How should demand-side policies be designed and communicated to maximise uptake and understanding amongst buyers? Please provide your views on:

- **Methodologies for communicating information via labelling that you think would work in this context, or have worked well in other schemes.**

Please use the available BS EN ISO standards that are already there.

- **Mechanisms of engagement, and how we can ensure buyers trust and understand how to use the new policies.**
- **Actions government could take to facilitate a shift towards lower carbon private procurement amongst buyers of industrial products outside of standards and labelling (e.g. formation of buyers' alliances or other methods of combining purchasing power, methods of enabling buyers to share information, knowledge and best practice on green procurement).**
- **Any views on how government could make schemes desirable to participate in.**

These three points are linked – government needs to make it clear that the public sector will require embodied carbon to be declared for all construction related procurements from, say, 2023/4 – long enough for the sector to respond and the public sector to learn how to implement this.

31. In your view, are there further environmental criteria or sustainable practices that public contracting bodies could consider in individual commercial processes? Please provide examples and explain how these could support a market for low emissions industrial products.

32. *When would demand-side policies ideally be introduced to best support decarbonisation of your sector or business? Please consider:

- **How the delivery timeline might need to vary for each policy (e.g. introducing voluntary policies prior to mandatory ones, which voluntary policies would be most helpful in the short-term, when public procurement could be most supportive etc.).**
- **For manufacturers - the likely decarbonisation pathway for your business and the wider domestic and international sector. For buyers - when you would like to begin purchasing low emissions products.**

-
- **Whether you would like to see early rollout of any demand-side policies in some sectors, followed by broader adoption across industry.**
 - **Whether the early roll-out of demand-side policies would be a suitable method to incentivise improving energy and/or resource efficiency measures for your sector or business. Please specify which policies.**

Construction is not currently doing a huge amount to address embodied carbon. We need to see a reasonably urgent push to get the sector measuring and calculating ahead of any firm targets being adopted. This needs to happen quickly given the overall urgency. There are tools available in the standards and in the CIBSE guidance which accompanies this response that show what is available.

33. What other factors should government take into account when designing demand-side policies? Please submit evidence on:

- **Any other schemes or policies which affect your sector that could interact with demand-side policies (e.g. ecodesign and energy information, producer responsibility schemes and deposit return scheme for drinks containers).**

In construction there are ecodesign requirements already and there are existing standards (see answers to Q6).

- **How the introduction of demand-side policies may impact your business.**
- **Suggested mitigations against any risks that you foresee.**

END

Please do not hesitate to contact us for more information on this response.